

R E M A R K S

Careful review and examination of the subject application are noted and appreciated.

OBJECTIONS TO THE DRAWINGS

The objection to the drawings has been obviated by appropriate amendment and should be withdrawn. The capacitor array 154 in step 214 has been changed to 160. "Directly" in step 206 has been amended for consistency. The suggestion to further add "digital switched" is traversed.

Further, FIG. 1 has been amended to more clearly show the second digital signal as an output of the circuit 112. No new matter has been added.

SUPPORT FOR CLAIM AMENDMENTS

Support for amended claims 1, 9 and 10 can be found in the drawings as originally filed (for example, in FIG. 1), on page 7 of the specification. As such, no new matter has been added.

CLAIM REJECTIONS UNDER 35 U.S.C. §112

The rejection of claims 1-20 under 35 U.S.C. §112, second paragraph has been obviated by appropriate amendment and should be withdrawn. The rejection is not completely understood. For clarification purposes, the claimed first circuit is shown in FIG. 1, in one example, as the element 102, the element 104 and the

element 106. The claimed second circuit is shown, in one example, as the element 108 and the element 110. The claimed third circuit is shown, in one example, as the element 112 and the element 114. The output of the element 114 illustrates an example of the claimed one or more control signals. The control signals are presented back to the element 106 to provide the claimed filter tuning. Therefore, the element 106 provides the claimed one or more control signals in response to the digital signal presented by the element 110. Claims 18, 19 and 20 provide further details.

If the Examiner needs further explanation, Applicants' representative requests that the Examiner initiate a telephone interview before issuing an Office Action other than a Notice of Allowance.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

The rejection of claims 1-7 and 9-20 under 35 U.S.C. §103(a) as being unpatentable over Cranford '441 in view of Bickley is respectfully traversed and should be withdrawn.

Cranford teaches an integrated adaptive cable equalizer using a continuous-time filter (Title). Bickley teaches a method and apparatus for automatic tuning calibration of electrically tuned filters (Title).

In contrast, claim 1 of the present invention provides an apparatus comprising a first circuit, a second circuit and a third circuit. The first circuit may be configured to filter an analog input signal in an analog domain in response to one or more control

signals. The second circuit may be configured to convert the analog input signal to a first digital signal. The third circuit may be configured to generate a second digital signal and the one or more control signals in response to the first digital signal. The third circuit may also be configured to deliberately skew the filter tuning of the analog input signal in response to a signal to noise ratio of the first digital signal to partially compensate for frequency dependent effects associated with a transmission medium. Claims 9 and 10 provide similar limitations.

As discussed in the Office Action, Cranford fails to disclose a third circuit configured to deliberately skew an analog input signal to partially compensate for frequency dependent effects, as presently claimed. Cranford is also silent regarding such skewing in response to a signal to noise ratio of the first digital signal. Bickley fails to cure the deficiencies of Cranford. In particular, Bickley does not teach or suggest deliberately skewing an analog input signal. At best, Bickley teaches stepped tuning voltages that correspond to a number of operating frequencies used to calibrate a filter. However, such calibration does not teach or suggest the claimed deliberately skewing in response to a signal to noise ratio of the first digital signal. As such, the claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Claims 3-7, 11-14, 16-17 and 19-20 depend, directly or indirectly, from the independent claims, which are now believed to be allowable.

The rejection of claim 8 under 35 U.S.C. §103 as being unpatentable over Cranford in view of Bickley, in further view of English is respectfully traversed and should be withdrawn. Claim 8 is independently patentable. The Office Action relies on English to support the assertion that the presently claimed digitally switched capacitor array circuit, the rectifier and the analog-to-digital converter being configured to sweep over code values and determine a center value is old and notoriously well known in the art of operating filter components (see Office Action, page 9, first paragraph). However, English merely teaches "[A] filter 40 [FIR] operates in known fashion to produce a preliminary subcarrier waveform of desired shape and center frequency" (see English, column 3, lines 44-47). English uses FIR coefficients to establish a desired shape and center frequency (see English, column 3, lines 47-50). However, English fails to teach or suggest a digitally switched capacitor array circuit and the second digital processing device. As such, the presently claimed invention is fully patentable over the cited references.

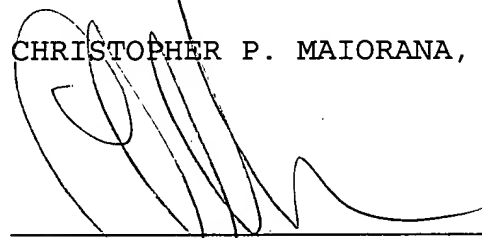
Accordingly, the present application is in condition for allowance. Early and favorable action by the Examiner is respectfully solicited.

The Examiner is respectfully invited to call the Applicants' representative at 586-498-0670 should it be deemed beneficial to further advance prosecution of the application.

If any additional fees are due, please charge Deposit
Account No. 12-2252.

Respectfully submitted,

CHRISTOPHER P. MAIORANA, P.C.

A handwritten signature in dark ink, appearing to read 'Christopher P. Maiorana', is written over a horizontal line.

Christopher P. Maiorana
Registration No. 42,829

Dated: August 3, 2005

c/o Henry Groth
LSI Logic Corporation
1621 Barber Lane, M/S D-106 Legal
Milpitas, CA 95035

Docket No.: 01-319 / 1496.00134